

XI.—*On the Birds of the Island of Formosa.*—Part II.*

By W. R. OGILVIE-GRANT and J. D. D. LA TOUCHE.

THE names of all the species of birds of which specimens were procured by Mr. Goodfellow are marked with an asterisk (*). Those obtained by Swinhoe and other collectors, and of which specimens are to be found in the British Museum or Liverpool Museum (Tristram Collection), are marked with a dagger (†). Some few species, which bear no mark, are included on the authority of Swinhoe, but of these no specimens have been examined, and possibly none were collected by him.

STRIGIDÆ.

129. †*STRIX CANDIDA* Tickell.

Strix pithecops Swinh. Ibis, 1866, p. 396.

Strix candida Swinh. P. Z. S. 1871, p. 344; Sharpe, Cat. Birds B. M. ii. p. 308 (1875); Tristram, Cat. of Birds, p. 68 (1889).

Swinhoe procured examples of the Barn-Owl from the interior of South-west Formosa.

BUBONIDÆ.

130. **SCOPS HAMBROECKI* (Swinh.).

Scops japonicus Swinh. (nec Schleg.) Ibis, 1865, p. 348; 1866, p. 307.

Ephialtes hambroECKi Swinh. Ann. & Mag. N. H. (4) vi. p. 153 (1870).

Lempijius hambroECKi Swinh. P. Z. S. 1871, p. 344.

Scops hambroECKi Sharpe, Cat. Birds B. M. ii. p. 64 (1875); Seebohm, Ibis, 1895, p. 213; La Touche, t. c. pp. 325, 336.

a. ♀. Racu Racu Mts., 7000 ft., Jan. 1906.

b. ♀. Ho Ho Mt., 5000 ft., March 1906.

The Scops Owl from Mount Ho Ho is somewhat more rufous than that from the Racu Racu Mountains. The latter agrees exactly with Dr. Sharpe's careful description of

* Concluded from p. 198.

the type-specimen in the Norwich Museum. The British Museum possesses an adult and a young bird obtained by P. A. Holst for the late Mr. Seebohm and alluded to by the latter in the 'Ibis' as cited above.

131. †SCOPS GLABRIPES Swinh.

Scops semitorques Swinh. (nec Schleg.) Ibis, 1863, p. 217.

Lempijijs glabripes Swinh. P. Z. S. 1871, p. 343.

Scops glabripes La Touche, Ibis, 1898, p. 372.

This form of Scops Owl is a resident in Formosa. Holst procured specimens in nearly every month of the year.

132. SCOPS STICTONOTA Sharpe.

Scops pennatus La Touche (nec Hodgs.), Ibis, 1895, p. 337.

Scops japonicus Swinh. ; La Touche, op. cit. 1898, p. 371.

Scops stictonota Sharpe, Hand-l. B. i. p. 285. (1899).

Apparently a resident throughout Formosa.

133. NINOX JAPONICA (Temm. & Schl.).

Ninox japonicus Swinh. Ibis, 1863, p. 215.

According to Swinhoe an example of the Japanese Hawk-Owl was frequently observed by him at Tamsui, but no specimen was procured. That in the Norwich Museum mentioned by Dr. Sharpe (Cat. Birds B. M. ii. p. 161) was no doubt wrongly labelled as coming from Formosa.

134. SYRNIUM INDRANEE (Sykes).

Bubo caligatus Swinh. Ibis, 1863, p. 218 ; 1864, p. 429.

Bulaca newarensis (Hodgs.); Swinh. P. Z. S. 1871, p. 344 ; La Touche, Ibis, 1898, p. 372.

This Wood-Owl is resident in the mountains of North Formosa.

135. *GLAUCIDIUM PARDALOTUM (Swinh.).

Athene pardalota Swinh. Ibis, 1863, p. 216.

Glaucidium pardalotum Sharpe, Cat. Birds B. M. ii. p. 214 (1875).

a-g. ♂ ♀. Ho Ho Mt., 5000 ft., Feb., March 1906.

Iris yellow ; bill greenish yellow, lighter at the tip ; feet yellowish green.

Though nearly allied to *G. brodici* (Burt.), this Pigmy

Owl appears to be quite a well-marked insular form peculiar to Formosa and may be at once recognised by the heavy blackish brown drop-shaped spots on the breast and belly and by the much wider buff markings and bars on the innermost scapulars.

PANDIONIDÆ.

136. PANDION HALIAËTUS Linn.

Pandion haliaëtus Swinh. Ibis, 1863, p. 209; La Touche, op. cit. 1898, p. 372.

The Osprey is probably a resident in North Formosa.

FALCONIDÆ.

137. CIRCUS SPILONOTUS Kaup.

Circus spilonotus Swinh. Ibis, 1863, p. 213, pl. v.; La Touche, op. cit. 1895, pp. 326, 337; 1898, p. 372.

This Harrier winters on the lowlands of Formosa.

138. †CIRCUS ÆRUGINOSUS Linn.

Circus æruginosus Swinh. Ibis, 1865, pp. 349, 352; 1870, p. 87.

Circus, sp. inc., La Touche, op. cit. 1895, pp. 326, 337.

Circus æruginosus Sharpe, Cat. Birds B. M. i. p. 69 (1874); Slater, Ibis, 1895, p. 337; La Touche, op. cit. 1898, p. 372.

The Marsh-Harrier is common on the plains of Formosa in winter.

139. *LOPHOSPIZA TRIVIRGATA (Temm.).

Lophospiza trivirgata Swinh. Ibis, 1866, p. 395.

Lophospizias trivirgatus Blanford, Fauna Brit. Ind., Birds, iii. p. 401 (1895).

a. ♂. Kiu-Kong Chin Mt., 5000 ft., March 1906.

b, c. ♀ et ♂ imm. Ho Ho Mt., 5000 ft., March 1906.

♂ *adult*. Iris orange-yellow; rim of eyelids yellow; bill black; cere greenish grey; gape orange.

♀ *adult*. Iris deep reddish yellow; bill slate-coloured, black at the tip; cere and skin of face greenish; feet yellow, nails black.

♂ *imm*. Iris yellow, rim of eyelids yellow; bill black at

the tip, slate-coloured at the base; cere and skin of face greenish; feet yellow.

The measurements of the birds are as follows:—

Adult male. Wing 9·0, tail 7·6 inches.

Immature male. Wing 8·5, tail 7·2 inches.

Adult female. Wing 10·5, tail 8·5 inches.

From these measurements it is clear that the Formosan Crested Goshawk belongs to the larger race inhabiting the Himalaya, which has been named *L. rufitincta* (McClelland).

140. *ACCIPITER AFFINIS Hodgs.

Accipiter virgatus La Touche (nec Temm.), Ibis, 1895, pp. 314, 337.

Accipiter affinis Grant, op. cit. 1896, p. 107.

a. ♀ imm. Racu Racu Mountains, 7000 ft., February 1906.

Iris yellow; bill slate-coloured; feet greenish yellow.

The measurements are as follows:—Wing 7·9, tail 6·5, tarsus 2·3 inches.

The Formosan bird, as has already been pointed out, belongs to the larger Himalayan form of the Besra Sparrow-Hawk. It inhabits the mountains of the interior of the island. In Grant's paper in the 'Ibis,' cited above, will be found descriptions and measurements of the different races.

141. ACCIPITER GULARIS (Temm. & Schl.).

Micronisus gularis Swinh. Ibis, 1863, p. 212.

Accipiter gularis Gurney, op. cit. 1863, p. 366; Grant, op. cit. 1896, p. 104.

Accipiter nisoides Blyth; La Touche, op. cit. 1898, p. 372.

This Sparrow-Hawk has been met with in Formosa, where it is perhaps a resident species.

142. BUTEO PLUMIPES (Hodgs.).

Buteo japonicus (T. & S.); Swinh. Ibis, 1863, p. 210.

Swinhoe says that this Buzzard is occasionally seen in Formosa, but no specimens were procured.

143. *AQUILA HELIACA* Savig.

Aquila heliaca Swinh. Ibis, 1865, p. 347.

Swinhoe states that he observed an example of the Imperial Eagle on Apes' Hill, Takow, in South Formosa.

144. *SPIZAËTUS NIPALENSIS* Hodgs.

Spizaëtus orientalis T. & S.; Swinh. Ibis, 1863, p. 211.

Spizaëtus nipalensis? La Touche, op. cit. 1895, p. 337.

Hodgson's Hawk-Eagle is resident in the mountains of Formosa.

145. *SPILORNIS CHEELA* (Lath.).

Spilornis hoya Swinh. Ibis, 1866, pp. 304-307, 399.

Spilornis cheela (Lath.); Swinh. P. Z. S. 1871, p. 340; La Touche, Ibis, 1898, p. 372.

The Crested Serpent-Eagle is resident in the mountains of Formosa.

146. *BUTASTUR INDICUS* (Gmel.).

Buteo poliogenys (Temm.); Swinh. Ibis, 1864, p. 429.

Poliornis poliogenys Swinh. op. cit. 1865, p. 545; 1866, p. 136.

Swinhoe procured a specimen of this Buzzard-Eagle from the interior of Formosa.

147. †*MILVUS MELANOTIS* Temm. & Schleg.

Milvus govinda Swinh. (nec Sykes) Ibis, 1863, p. 210.

Milvus melanotis Sharpe, Cat. Birds B. M. i. p. 324 (1874); La Touche, Ibis, 1895, p. 337; 1898, p. 373.

The Large Indian Kite is resident throughout the inhabited districts of the lower hills and plains.

148. *CERCHNEIS JAPONICUS* (Temm. & Schleg.).

Falco tinnunculus japonicus Temm. & Schleg. Faun. Jap., Aves, p. 2, pls. 1, 1 B (1845-50).

Tinnunculus japonicus Swinh. Ibis, 1863, p. 211.

Falco tinnunculus La Touche (nec Linn.), op. cit. 1895, p. 337; 1898, p. 372.

This dark form of the Kestrel is common throughout the lower hills and on the plains in winter.

149. FALCO PEREGRINUS Linn.

Falco peregrinus Swinh. Ibis, 1863, p. 210 ; La Touche, op. cit. 1898, p. 372.

The Peregrine Falcon is probably resident in North Formosa.

SULIDÆ.

150. †SULA SULA (Linn.).

Sula sinicadvena Swinh. Ibis, 1865, p. 109.

Sula fiber Swinh. (nec Linn.) P. Z. S. 1871, p. 420.

Sula sula Grant, Cat. Birds B. M. xxvi. p. 436 (1898).

Swinhoe procured an example of this Booby at Tamsui, N. Formosa.

PHALACROCORACIDÆ.

151. PHALACROCORAX CARBO (Linn.).

Phalacrocorax carbo Swinh. Ibis, 1863, p. 433.

Swinhoe says that this Cormorant is not uncommon on the rocks during winter.

152. PHALACROCORAX BICRISTATUS Pall.

Phalacrocorax bicristatus Swinh. Ibis, 1863, p. 434.

Swinhoe tells us that the Double-crested Cormorant is an accidental straggler to the north coast of Formosa.

ANATIDÆ.

153. ANSER sp. inc.

On the 8th of December, 1894, La Touche observed three Geese flying overhead at Hobé (Tamsui), North Formosa.

Swinhoe says that the following species of Ducks occur in Formosa, but apparently he did not obtain specimens of the majority of them :—

154. TADORNA CORNUTA (Linn.).

Tadorna vulpanser Flem. ; Swinh. Ibis, 1863, p. 434.

155. CASARCA CASARCA (Linn.).

Casarca rutila (Pall.) ; Swinh. Ibis, 1863, p. 434.

156. †ÆX GALERICULATA (Linn.).

Æx galericulata Swinh. Ibis, 1866, p. 295; Salvad. Cat. Birds B. M. xxvii. p. 76 (1895).

The Mandarin-Duck is an inland resident.

157. ANAS BOSCHAS Linn.

Anas boschas Swinh. Ibis, 1863, p. 434.

158. ANAS ZONORHYNCHA Swinh.

Anas pœcilorhyncha Swinh. (nec Pennant) Ibis, 1863, p. 434.

Anas zonorhyncha Swinh. op. cit. 1866, p. 394.

159. EUNETTA FALCATA (Georgi).

Querquedula falcata Pall.; Swinh. Ibis, 1863, p. 434.

Eunetta falcata Swinh. P. Z. S. 1871, p. 419.

160. NETTION FORMOSUM (Georgi).

Querquedula glocitans Pall.; Swinh. Ibis, 1863, p. 434.

161. NETTION CRECCA (Linn.).

Querquedula crecca Swinh. Ibis, 1863, p. 434.

162. †QUERQUEDULA QUERQUEDULA (Linn.).

Querquedula circia Swinh. Ibis, 1863, p. 434; Salvad. Cat. Birds B. M. xxvii. p. 293 (1895).

A male Garganey was obtained by Swinhoe on March 13th at Tamsui. La Touche saw one, which had been shot by a friend in the same locality on April 7th.

163. †MARECA PENELOPE (Linn.).

Mareca penelope Swinh. Ibis, 1863, p. 434; Salvad. Cat. Birds B. M. xxvii. p. 227 (1895).

164. DAFILA ACUTA (Linn.).

Dafila acuta Swinh. Ibis, 1863, p. 434.

165. †SPATULA CLYPEATA (Linn.).

Spatula clypeata Swinh. Ibis, 1863, p. 434; Salvad. Cat. Birds B. M. xxvii. p. 306 (1895).

166. FULIGULA MARILA (Linn.).

Fuligula marila Swinh. Ibis, 1863, p. 434.

167. FULIGULA FULIGULA (Linn.).

Fuligula cristata Ray; Swinh. Ibis, 1863, p. 434.

168. CLANGULA CLANGULA (Linn.).

Clangula glaucion Swinh. Ibis, 1863, p. 434.

169. MERGANSER SERRATOR (Linn.).

Mergus serrator Swinh. Ibis, 1863, p. 434.

Note.—All the above-mentioned Ducks are common winter visitants to the coast of China generally. *Anas zonorhyncha* is a resident species throughout China. *Casarca rutila* is a rare species in Foh-kien, and is probably not common in Formosa also.

PLATALEIDÆ.

170. †PLATALEA MAJOR (Temm. & Schleg.).

Platalea major Swinh. Ibis, 1863, p. 417; 1864, p. 364. no. 1 ♀; Grant, op. cit. 1889, pp. 39-47, fig. 1.

Platalea leucorodia Sharpe, Cat. Birds B. M. xxvi. p. 44 (1898) [part.].

The Eastern form of the Common Spoonbill occurs in N. Formosa, and Swinhoe procured specimens of it in March.

171. †PLATALEA MINOR Temm. & Schleg.

Platalea minor Swinh. Ibis, 1864, pp. 368, 369. nos. 2, 34; Grant, op. cit. 1889, pp. 54-58, pl. 1. figs. 3, 3A, 6, and woodcut fig. 2, p. 39; Sharpe, Cat. Birds B. M. xxvi. p. 50 (1898).

The Lesser Spoonbill was procured by Swinhoe in North Formosa in the month of March.

IBIDIDÆ.

172. IBIS NIPPON Temm.

Ibis nippon Swinh. Ibis, 1863, p. 416.

Seen by Swinhoe at the end of April on the mud-flats of the Tamsui River, N. Formosa.

ARDEIDÆ.

173. †GORSACHIUS GOISAGI Temm.

Ardea goisagi Swinh. Ibis, 1865, p. 353.

Gorsachius goisagi Swinh. op. cit. 1866, p. 403; Sharpe, Cat. Birds B. M. xxvi. pp. 169, 277 (1898).

The Japanese Bittern visits N. Formosa in winter.

174. †GORSACHIUS MELANOLOPHUS (Raffl.).

Gorsachius goisagi Swinh. (nec Temm.) Ibis, 1866, p. 122.

Gorsachius melanolophus Sharpe, Cat. Birds B. M. xxvi. pp. 166, 277 (spec. *k'*, *l'*) (1898).

The Malay Bittern occasionally visits South Formosa in winter. Swinhoe obtained two immature specimens.

175. †ARDEA CINEREA Linn.

Ardea cinerea Swinh. Ibis, 1863, p. 417; La Touche, op. cit. 1895, p. 306.

This Heron is a common resident.

176. †HERODIAS GARZETTA (Linn.).

Herodias garzetta Swinh. Ibis, 1863, p. 417.

The Little Egret is resident in Formosa.

177. HERODIAS ALBA (Linn.).

Herodias alba Swinh. Ibis, 1863, p. 417; Sharpe, Cat. Birds B. M. xxvi. p. 90 (1898); Rickett, Ibis, 1903, p. 220.

Ardea alba La Touche, op. cit. 1895, p. 306.

Herodias timoriensis Sharpe, Cat. Birds B. M. xxvi. pp. 98, 270 (1898).

The Great White Heron is common in Formosa in winter.

There is not the slightest doubt that adults from China assume a black (*very dark green*) bill in summer. The train of six males in La Touche's collection extends from 3·6 to 6·5 inches beyond the tail; that of three females from 1·6 to 3·5 inches [see Swinhoe, P. Z. S. 1871, p. 412 (*E. modesta* Gray)].

178. †HERODIAS EULOPHOTES Swinh.

Herodias eulophotes Swinh. Ibis, 1860, p. 64; 1863, p. 418; Rickett, op. cit. 1903, pp. 220, 221.

Demiegretta sacra Sharpe, Cat. Birds B. M. xxvi. pp. 137, 274 (1898) [part.].

Swinhoe's Egret is resident in North Formosa. Mr. Rickett has clearly pointed out the distinguishing characters of the species, and, in our opinion, has shown it to be quite distinct from *D. sacra*.

179. †NYCTICORAX NYCTICORAX (Linn.).

Nycticorax griseus (Linn.); Swinh. Ibis, 1863, p. 423.

Nycticorax nycticorax Sharpe, Cat. Birds B. M. xxvi. pp. 146, 275.

The Night-Heron is a common resident in Formosa.

180. †BUTORIDES JAVANICA (Horsf.).

Butorides javanica Swinh. Ibis, 1863, p. 420; Sharpe, Cat. Birds B. M. xxvi. pp. 177, 279 (1898).

Butorides macrorhynchus Gould; Swinh. P. Z. S. 1871, p. 413.

The Little Green Heron is abundant in all marshy grounds throughout Formosa in summer; a few individuals also occur in winter.

181. †BUBULCUS COROMANDUS (Bodd.).

Bubulus coromandus Swinh. Ibis, 1863, p. 419.

Bubulus coromandus Swinh. P. Z. S. 1871, p. 412; Sharpe, Cat. Birds B. M. xxvi. pp. 217, 283 (1898).

The Cattle-Egret is a summer visitant to Formosa.

182. †ARDETTA CINNAMOMEA (Gmel.).

Ardetta cinnamomea Swinh. Ibis, 1863, p. 422; Sharpe, Cat. Birds B. M. xxvi. pp. 236, 285 (1898).

The Chestnut Bittern is abundant in summer, a few individuals remaining throughout the winter.

183. †ARDETTA SINENSIS (Gmel.).

Ardetta sinensis Swinh. Ibis, 1863, p. 422; Sharpe, Cat. Birds B. M. xxvi. pp. 227, 283 (1898).

Swinhoe obtained one specimen of the Yellow Bittern at Tamsui in April: Holst also procured a young bird.

184. DUPETOR FLAVICOLLIS (Lath.).

Ardetta flavicollis Swinh. Ibis, 1863, p. 422.

The Black Bittern is no doubt a summer visitant to Formosa, but, according to Swinhoe, is rather rare.

PARRIDÆ.

185. †HYDROPHASIANUS CHIRURGUS (Scop.).

Hydrophasianus chirurgus Swinh. Ibis, 1866, p. 405; id., P. Z. S. 1871, p. 414; La Touche, Ibis, 1895, p. 327.

Hydrophasis chirurgus Sharpe, Cat. Birds B. M. xxiv. p. 69 (1896).

The Pheasant-tailed Jacana is resident in South Formosa.

GLAREOLIDÆ.

186. †GLAREOLA ORIENTALIS Leach.

Glareola orientalis Swinh. Ibis, 1863, p. 404; Sharpe, Cat. Birds B. M. xxiv. p. 58 (1896).

The Large Indian Pratincole abounds on the flat marshy grounds near Tainan.

CHARADRIIDÆ.

187. ARENARIA INTERPRES (Linn.).

Streptilas interpres Swinh. Ibis, 1863, p. 414.

The Turnstone is a migrant and was seen by La Touche on May 5th at Tamsui.

188. HÆMATOPUS OSCULANS Swinh.

Hematopus longirostris Swinh. (nec Vieill.) Ibis, 1863, p. 406.

Hematopus osculans Swinh. P. Z. S. 1871, p. 405.

A few parties of this Oyster-catcher visit Apes'-Hill Creek, S. Formosa, during winter.

189. VANELLUS VANELLUS (Linn.).

The Lapwing is a winter visitant. La Touche has a specimen shot in Central Formosa.

190. †SQUATAROLA HELVETICA (Linn.).

Squatarola helvetica Swinh. Ibis, 1863, p. 404; Sharpe, Cat. Birds B. M. xxiv. p. 182 (1896).

The Grey Plover frequents the shores and the mouths of the rivers in winter.

191. †CHARADRIUS DOMINICUS, P. L. S. Müll.

Charadrius longipes Temm. ; Swinh. Ibis, 1863, p. 404.

Charadrius fulvus Gmel. ; Swinh. P. Z. S. 1871, p. 403 ;
La Touche, Ibis, 1895, pp. 326, 327.

Charadrius dominicus Sharpe, Cat. Birds B. M. xxiv.
p. 195 (1896).

The Eastern Golden Plover winters in Formosa.

192. †ÆGIALITIS GEOFFROYI (Wagl.).

Ægialitis geoffroyi Swinh. Ibis, 1863, p. 405.

Ochthodromus geoffroyi Sharpe, Cat. Birds B. M. xxiv.
p. 217 (1896).

Geoffroy's Sand-Plover is probably a resident species in West Formosa, as La Touche has reason to believe that it summers on the south coast of Foh-kien.

193. ÆGIALITIS MONGOLICA (Pall.).

La Touche shot an example of this Sand-Plover on May 5th on the mud-flats at the mouth of the Tamsui River.

194. †ÆGIALITIS DEALBATA Swinh.

Ægialitis cantianus Swinh. Ibis, 1863, p. 405.

Ægialites dealbatus Swinh. P. Z. S. 1870, p. 138 ; 1871,
p. 404.

Ægialitis dealbata Sharpe, Cat. Birds B. M. xxiv. p. 282
(1896).

This eastern form of the Kentish Plover is a common resident on the sandy shores of Formosa.

195. †ÆGIALITIS DUBIA (Scop.).

Ægialites philippinus Swinh. Ibis, 1863, p. 406.

Ægialites dubius Swinh. P. Z. S. 1871, p. 404.

The Little Ringed Plover is a winter visitant.

196. RECURVIROSTRA AVOCETTA (Linn.).

Recurvirostra avocetta Swinh. Ibis, 1863, p. 406.

Swinhoe says that a few parties of Avocets visit Apes'-Hill Creek during winter.

197. †NUMENIUS ARQUATA (Linn.).

Numenius major Steph. and *Numenius arcuatus* Swinh. Ibis,
1863, p. 410.

Numenius lineatus Swinh. P. Z. S. 1871, p. 410.

Numenius arquatus Sharpe, Cat. Birds B. M. xxiv. p. 341 (1896).

The Curlew winters on the island.

198. NUMENIUS CYANOPUS Vieill.

Numenius rufescens Gould ; Swinh. Ibis, 1863, p. 410.

Numenius tahitiensis Swinh. (nec Gmel.) P. Z. S. 1871, p. 410.

This Curlew is a migrant in Formosa. La Touche shot a specimen at Tamsui on the 5th of May.

199. NUMENIUS MINUTUS Gould.

Numenius minor Temm. & Schleg.; Swinh. Ibis, 1863, p. 409.

Numenius minutus Swinh. P. Z. S. 1871, p. 409.

The Little Whimbrel occurs in Formosa in late spring and early autumn.

200. †NUMENIUS VARIEGATUS (Scop.).

Numenius uropygialis Gould ; Swinh. Ibis, 1863, p. 409.

Numenius luzoniensis (Gmel.) ; Swinh. P. Z. S. 1871, p. 410.

Numenius variegatus Sharpe, Cat. Birds B. M. xxiv. p. 361 (1896).

The Eastern Whimbrel was obtained by Swinhoe at Tainan on the 30th of October, and La Touche shot examples of it at Tamsui on the 5th of May.

201. LIMOSA NOVE ZEALANDIÆ Gray.

Limosa uropygialis Gould ; Swinh. Ibis, 1863, p. 409 ; id. P. Z. S. 1871, p. 406.

This Godwit is met with in Formosa in winter.

202. †TOTANUS CALIDRIS (Linn.).

Totanus calidris Swinh. Ibis, 1863, p. 407 ; Sharpe, Cat. Birds B. M. xxiv. p. 414 (1896).

The Redshank occurs as a winter visitor.

203. †TOTANUS STAGNATILIS Bechst.

Totanus stagnatilis Swinh. Ibis, 1863, p. 403 ; Sharpe, Cat. Birds B. M. xxiv. p. 422 (1896).

Swinhoe procured a single example of the Marsh-Sand-

piper on the 30th of August, 1861, from a small flock on the mud-flats near Tainan.

204. †TOTANUS OCHROPUS Linn.

Totanus ochropus Swinh. Ibis, 1863, p. 407.

Helodromus ochropus Sharpe, Cat. Birds B. M. xxiv. p. 437 (1896).

The Green Sandpiper is a winter visitant.

205. TOTANUS GLAREOLA (Gmel.).

Totanus glareola Swinh. Ibis, 1863, p. 407.

Flocks of the Wood-Sandpiper are abundant in early winter and spring.

206. †TOTANUS BREVIPES Vieill.

Totanus brevipes Swinh. Ibis, 1863, p. 407.

Heteractitis brevipes Sharpe, Cat. Birds B. M. xxiv. p. 449 (1896).

The Grey-rumped Sandpiper passes in late spring and early autumn.

207. †TRINGOIDES HYPOLEUCUS (Linn.).

Tringoides hypoleucus Swinh. Ibis, 1863, p. 408; Sharpe, Cat. Birds B. M. xxiv. p. 456 (1896).

The Common Sandpiper is an abundant resident species.

208. TEREKIA CINEREA (Güld.).

La Touche procured an example of the Terek Sandpiper on the 5th of May on the mud-flats at the mouth of the Tamsui River.

209. †GLOTTIS NEBULARIUS (Gunner).

Totanus glottis (Lath.); Swinh. Ibis, 1863, p. 406.

Glottis nebularius Sharpe, Cat. Birds B. M. xxiv. pp. 481, 764 (1896).

The Greenshank is a winter visitant.

210. CALIDRIS ARENARIA (Linn.).

Calidris arenaria Swinh. Ibis, 1863, p. 414.

The Sanderling visits Formosa on migration. A few individuals pass the winter there, according to Swinhoe.

211. †TRINGA RUFICOLLIS Pall.

Tringa albescens Temm. ; Swinh. Ibis, 1863, p. 413.

Tringa damacensis Swinh. (nec Horsf.) Ibis, 1863, p. 413
[cf. Sharpe, Cat. p. 545].

Limonites ruficollis Sharpe, Cat. Birds B. M. xxiv. p. 545
(1896).

The Eastern Little Stint occurs as a migrant on the marshy lands of South-west Formosa.

212. TRINGA TEMMINCKI Leisl.

Tringa temminckii Swinh. Ibis, 1863, p. 412.

Temminck's Stint is a common winter visitant to the inland waters and marshes.

213. †TRINGA ACUMINATA (Horsf.).

Tringa acuminata Swinh. Ibis, 1863, p. 412.

Heteropygia acuminata Sharpe, Cat. Birds B. M. xxiv.
p. 566 (1896).

The Pectoral Sandpiper visits Formosa on migration in May and August.

214. TRINGA AMERICANA Cassin.

Tringa cinclus Swinh. (nec Linn.) Ibis, 1863, p. 411.

Pelidna americana Sharpe, Cat. Birds B. M. xxiv. pp. 608,
769 (1896).

The American Dunlin is a winter visitant.

215. LIMICOLA PLATYRHYNCHA Temm.

Tringa platyrhyncha Swinh. Ibis, 1863, p. 412.

The Broad-billed Sandpiper visits the south-west shores of Formosa in September.

216. †GALLINAGO STENURA (Bonap.).

Gallinago stenura Swinh. Ibis, 1863, p. 415 ; Sharpe, Cat.
Birds B. M. xxiv. p. 619 (1896).

The Pin-tailed Snipe winters in Formosa.

217. †GALLINAGO MEGALA Swinh.

Gallinago megala Swinh. Ibis, 1863, p. 415 ; Sharpe, Cat.
Birds B. M. xxiv. p. 624 (1896).

Swinhoe's Snipe is a migrant to Formosa.

218. †GALLINAGO GALLINAGO (Linn.).

Gallinago scolopacina Bonap. ; Swinh. Ibis, 1863, p. 415.

Gallinago gallinago Sharpe, Cat. Birds B. M. xxiv. p. 633 (1896).

The Common Snipe winters in Formosa.

219. †GALLINAGO GALLINULA (Linn.).

Limnocyptes gallinula Swinh. P. Z. S. 1871, p. 407 ; Sharpe, Cat. Birds B. M. xxiv. p. 665 (1896).

Swinhoe received a specimen of the Jack Snipe shot in Formosa.

220. †SCOLOPAX RUSTICULA Linn.

Scolopax rusticula Swinh. Ibis, 1863, p. 415 ; Sharpe, Cat. Birds B. M. xxiv. p. 671 (1896).

A Woodcock procured in Formosa by Swinhoe during October is in the British Museum.

221. †ROSTRATULA CAPENSIS (Linn.).

Rhynchæa sinensis Swinh. Ibis, 1864, p. 370.

Rostratula capensis Sharpe, Cat. Birds B. M. xxiv. p. 683 (1896).

The Painted Snipe is a resident in Formosa. La Touche obtained an example on the 29th of January on the savage border near Tokoham, N. Formosa.

222. †PHALAROPUS HYPERBOREUS (Linn.).

Lobipes hyperboreus Swinh. Ibis, 1863, p. 415.

Phalaropus hyperboreus Sharpe, Cat. Birds B. M. xxiv. p. 698 (1896).

The Red-necked Phalarope has been obtained in both North and South Formosa on migration, in November and April respectively, by Swinhoe.

LARIDÆ.

223. †HYDROCHELIDON HYBRIDA (Pall.).

Hydrochelidon indica (Stephen) ; Swinh. Ibis, 1863, p. 428 ; id. P. Z. S. 1863, p. 328.

Hydrochelidon hybrida Swinh. P. Z. S. 1871, p. 421 ; Saunders, Cat. Birds B. M. xxv. p. 10 (1896).

The Whiskered Tern frequents the marshy lands of S.W. Formosa.

224. †HYDROPROGNE CASPIA (Pall.).

Sterna caspia Swinh. Ibis, 1863, p. 430.

According to Swinhoe a few Caspian Terns visit the coast in winter. La Touche thinks that this species is probably resident.

225. STERNA BERGII Licht.

Sterna cristata Steph.; Swinh. Ibis, 1863, p. 430.

The Swift Tern is common on the north coast throughout the year, and breeds on Kelung Island.

226. STERNA ANÆSTHETA Scop.

Haliplana anæsthesa Swinh. P. Z. S. 1871, p. 422.

Common about the Pescadores Islands.

227. †STERNA SINENSIS (Gmel.).

Sternula sinensis and *Sterna minuta* Swinh. (nec Linn.) Ibis, 1863, pp. 429, 430.

Sterna sinensis Saunders, Cat. Birds B. M. xxv. p. 113 (1896).

The Chinese Tern is resident on the east coast, where it breeds.

228. †ANOUS STOLIDUS (Linn.).

Anous stolidus Swinh. Ibis, 1863, p. 430; Saunders, Cat. Birds B. M. xxv. p. 136 (1896).

The Noddy breeds on the cliffs at Sawo, N.E. Formosa.

229. †LARUS CRASSIROSTRIS Vieill.

Larus crassirostris Swinh. Ibis, 1863, p. 428; Saunders, Cat. Birds B. M. xxv. p. 227 (1896).

The Black-tailed Gull is doubtless a resident on the coast of Formosa.

230. †LARUS CANUS Linn.

Larus niveus Pall.; Swinh. Ibis, 1863, p. 428.

Larus canus Saunders, Cat. Birds B. M. xxv. p. 277 (1896).

The Common Gull is a winter visitant.

231. *LARUS SAUNDERSI* Swinh.

Chroicocephalus kittlitzii Swinh. (nec Bruch.) Ibis, 1863, p. 428.

Chroicocephalus saundersi Swinh. P. Z. S. 1871, p. 273, pl. xxii.

Larus saundersi Saunders, Cat. Birds B. M. xxv. p. 183 (1896).

Swinhoe says that Saunders's Gull is a winter visitor to Formosa.

232. *LARUS RIDIBUNDUS* Linn.

Chroicocephalus ridibundus Swinh. Ibis, 1863, p. 428.

The Black-headed Gull is also recorded on the authority of Swinhoe, but he does not appear to have procured any specimens.

PROCELLARIIDÆ.

233. *OCEANODROMA MONORHIS* Swinh.

Thalassidroma monorhis Swinh. Ibis, 1867, p. 386; id. P. Z. S. 1871, p. 422.

Swinhoe's Storm-Petrel breeds on the small islands north-east of Formosa.

DIOMEDEIDÆ.

234. *DIOMEDEA ALBATRUS* Pall.

Diomedea brachyura Temm.; Swinh. Ibis, 1863, p. 431.

Diomedea albatrus La Touche, op. cit. 1895, p. 327.

The Short-tailed Albatross is abundant in winter about the Pescadores Islands and in the Formosa Channel.

235. *DIOMEDEA NIGRIPES* Aud.

Diomedea nigripes Swinh. Ibis, 1863, p. 431.

Swinhoe says that the Black-footed Albatross is abundant in the Formosa Channel at all seasons.

COLYMBIDÆ.

236. *COLYMBUS SEPTENTRIONALIS* Linn.

Colymbus septentrionalis Swinh. Ibis, 1863, p. 433.

The Red-throated Diver visits the coast of Formosa in winter.

PODICIPEDIDÆ.

237. †*PODICIPES PHILIPPENSIS* Bonn.

Podiceps minor Swinh. (nec Linn.) *Ibis*, 1863, p. 433.

Podiceps philippensis Grant, *Cat. Birds B. M.* xxvi. p. 511 (1898).

The Eastern Dabchick is an abundant resident on the inland waters of Formosa.

RALLIDÆ.

238. †*HYPOTENIDIA STRIATA* (Linn.).

Rallus striatus Swinh. *Ibis*, 1863, p. 427.

Hypotenidia striata Sharpe, *Cat. Birds B. M.* xxiii. p. 33 (1894).

The Banded Rail was obtained in summer by Swinhoe.

239. †*RALLINA FORMOSANA* Seebohm.

Rallina formosana Seebohm, *Bull. B. O. C.* iv. p. vii (1894); *id.* *Ibis*, 1895, pp. 146, 211.

The Formosan Rail was obtained by P. A. Holst in Central Formosa, and is peculiar to the island.

240. †*AMAURORNIS FUSCUS* (Linn.).

Porzana fusca Swinh. *Ibis*, 1863, p. 426.

Limnobaenus fuscus Sharpe, *Cat. Birds B. M.* xxiii. p. 146 (1894).

The Ruddy Crake is abundant about Tainan, and is probably a resident in Formosa.

241. †*AMAURORNIS PHÆNICURA* (Forst.).

Gallinula phœnicura Swinh. *Ibis*, 1863, p. 427.

Amaurornis phœnicura Sharpe, *Cat. Birds B. M.* xxiii. p. 156 (1894).

The White-breasted Water-Hen is found in summer in Formosa and is probably a resident.

242. †*GALLINULA CHLOROPUS* (Linn.).

Gallinula chloropus Swinh. *Ibis*, 1863, p. 427; Sharpe, *Cat. Birds B. M.* xxiii. p. 169 (1894).

The Common Water-Hen is found on most of the inland waters of Formosa.

243. *GALLICREX CINEREA* (Gmel.).

Gallixra cristatus (Lath.); Swinh. Ibis, 1863, p. 425.

The Water-Cock is a summer visitant to Formosa and breeds there.

244. *FULICA ATRA* Linn.

Fulica atra Swinh. Ibis, 1864, p. 370.

In winter the Common Coot visits the inland lakes of the island.

COLUMBIDÆ.

245. **SPHENOCERCUS SORORIUS* Swinh.

Sphenocercus sororius Swinh. Ibis, 1866, pp. 311, 406; id. P. Z. S. 1871, p. 396.

Treron chæroboatis Swinh. Ibis, 1866, p. 313.

Sphenocercus sororius Salvad. Cat. Birds B. M. xxi. p. 13 (1893).

a, b. ♂. Racu Racu Mts., 6000 ft., Jan., Feb. 1906.

c-f. ♂ ♀ et ♀ imm. Ho Ho Mt., 5000 ft., March 1906.

Inner ring of iris blue, outer ring purple; bill bluish grey at the tip, cobalt-blue at the base; feet red.

This Green Pigeon is peculiar to the mountains of Formosa.

246. †*SPHENOCERCUS FORMOSÆ* (Swinh.).

Treron formosæ Swinh. Ibis, 1863, p. 396; 1865, p. 540; 1866, p. 312.

Sphenocercus formosæ Salvad. Cat. Birds B. M. xxi. p. 13, pl. 1 (1893); McGregor & Worcester, Hand-l. B. Philippine I. p. 9 (1906) [Calayan].

The Formosan Green Pigeon inhabits the mountains in the south of the island. According to Messrs. McGregor and Worcester it has been taken in Calayan, Babuyan Islands.

247. †*TURTUR HUMILIS* (Temm.).

Turtur humilis Swinh. Ibis, 1863, p. 397; Salvad. Cat. Birds B. M. xxi. p. 434 (1893).

This Turtle-Dove is found in the low country about Tainan in summer.

248. †TURTUR CHINENSIS (Scop.).

Turtur chinensis Swinh. Ibis, 1863, p. 397; La Touche, op. cit. 1895, p. 338; 1898, p. 373; Salvad. Cat. Birds B. M. xxi. p. 439 (1893).

The Chinese Turtle-Dove is resident throughout the lower hills and plains of Formosa.

249. *TURTUR ORIENTALIS (Lath.).

Turtur rupicola Swinh. Ibis, 1863, p. 397; La Touche, op. cit. 1895, pp. 312, 314, 338.

Turtur orientalis Salvad. Cat. Birds B. M. xxi. p. 403 (1893).

a. ♂. Ho Ho Mt., 5000 ft., March 1906.

Iris reddish golden; bill grey at the tip, dull red at the base; feet red.

This is the true *T. orientalis* with light whitish edges to the lesser and median wing-coverts. The bird seems to be fairly distinguishable from the Indian form, *T. meena* (Sykes), which has the lesser and median wing-coverts edged with chestnut.

The Rufous Turtle-Dove is resident in the hills of South and Central Formosa.

250. *COLUMBA PULCHRICOLLIS Hodgs.

Palumbus pulchricollis Swinh. Ibis, 1866, pp. 313, 396.

Columba pulchricollis Salvad. Cat. Birds B. M. xxi. p. 305 (1893).

a. ♂. Racu Racu Mts., 7000 ft., Jan. 1906.

The Ashy Wood-Pigeon occurs in the mountains of South and Central Formosa.

251. †CHALCOPHAPS INDICA (Linn.).

Chalcophaps formosana Swinh. Ibis, 1865, pp. 357, 540.

Chalcophaps indica La Touche, op. cit. 1895, pp. 328, 329, 337; Salvad. Cat. Birds B. M. xxi. p. 514 (1893).

The Bronze-winged Dove is resident in South Formosa.

TURNICIDÆ.

252. †TURNIX TAIGOOR (Sykes).

Turnix ocellata Swinh. (nec Scop.) Ibis, 1863, p. 398.

Turnix rostrata Swinh. Ibis, 1865, pp. 542-544.

Turnix taigoor Grant, Cat. Birds B. M. xxii. p. 530 (1893); id. Hand-b. Game-B. ii. p. 265 (1897); La Touche, Ibis, 1895, p. 338; 1898, p. 373.

This Bustard-Quail is common on the lower hills throughout Formosa.

It is not unlikely that *Turnix blanfordi* also occurs in Formosa (cf. Grant, 'Ibis,' 1896, p. 494).

253. †TURNIX DUSSUMIERI (Temm.).

Turnix dussumieri Swinh. P. Z. S. 1871, p. 401; Grant, Cat. Birds B. M. xxii. p. 540 (1893); id. Hand-b. Game-B. ii. p. 273 (1897).

The Little Bustard-Quail abounds on the low grassy hills about fifteen miles from Takow.

PHASIANIDÆ.

254. *ARBORICOLA CRUDIGULARIS (Swinh.).

Oreoperdix crudigularis Swinh. Ibis, 1864, p. 426.

Arboricola crudigularis Grant, Cat. Birds B. M. xxii. p. 211 (1893); id. Hand-b. Game-B. i. p. 164 (1895).

a-c. ♂ ♀ et imm. Racu Racu Mts., 8000 ft., Jan., Feb. 1906.

d-n. ♂ ♀. Ho Ho Mt., 5000 ft., Feb., March 1906.

Adult. Iris dark brown; bill black; feet vermilion.

In the immature bird the feathers on the top of the head are very distinctly spotted with black at the tip and have a subterminal light brown band (in the adult these markings are nearly obsolete); the median secondary-coverts are spotted with buff at the tip of the outer web; and a number of the *breast*-feathers are spotted with white at the tip of the shaft, like the flank-feathers. The bill is very much slighter than in the adult and is, moreover, differently coloured: the iris is light greyish brown; the bill reddish, black at the base and vermilion at the tip.

The Formosan Tree-Partridge is peculiar to the mountains of the interior of the island.

255. *COTURNIX COTURNIX* (Linn.).

Coturnix communis Swinh. Ibis, 1863, p. 398.

According to Swinhoe, the migratory Quail occurs in Formosa all the year round.

Coturnix japonica probably occurs there also (cf. La Touche, 'Ibis,' 1898, p. 373).

256. *EXCALFACTORIA CHINENSIS* (Linn.).

Excalfactoria chinensis Swinh. Ibis, 1863, p. 398; Grant, Cat. Birds B. M. xxii. p. 250 (1893); id. Hand-b. Game-B. i. p. 193 (1895); La Touche, Ibis, 1895, p. 338; 1898, p. 373.

The Painted Quail is a resident on the plains and lower hills.

La Touche, when in South Formosa, found that the Formosan name "*Koo-lew*," applied to this Quail by Swinhoe, is given in South Formosa to several kinds of *small Waders*.

257. **BAMBUSICOLA SONORIVOX* Gould.

Bambusicola sonorivox Gould, P. Z. S. 1862, p. 285; Swinh. Ibis, 1863, pp. 208, 399; Gould, B. Asia, vi. pl. 72 (1864); Grant, Cat. Birds B. M. xxii. p. 259 (1893); id. Hand-b. Game-B. i. p. 204 (1895); La Touche, Ibis, 1895, p. 338; 1898, p. 373.

a, b. ♂ ♀. Ho Ho Mt., 5000 ft., March 1906.

Iris dark brown; bill black; feet greyish olive-green.

The Formosan Bamboo-Partridge is peculiar to the island and is found in suitable localities throughout the hills and mountains.

258. **GENNÆUS SWINHOII* (Gould).

Euplocamus swinhoii Gould, P. Z. S. 1862, p. 284; Swinh. Ibis, 1863, p. 401; Gould, B. Asia, vii. pl. 16 (1864); La Touche, Ibis, 1895, p. 338; 1898, p. 373.

Gennæus swinhoii Grant, Cat. Birds B. M. xxii. p. 309 (1893); id. Hand-b. Game-B. i. p. 278 (1895).

a-d. ♂. Racu Racu Mts., 7000 ft., Feb. 1906.

e-g. ♂. Ho Ho Mt., 5000 ft., Feb., March 1906.

Swinhoe's Kalij Pheasant is peculiar to the mountains of

Formosa, but appears to be rare towards the north of the island.

259. †*PHASIANUS FORMOSANUS* Elliot.

Phasianus torquatus Swinh. (nec Gmel.) Ibis, 1863, p. 401 ; 1866, p. 404.

Phasianus formosanus Elliot, P. Z. S. 1870, p. 406 ; Swinh. *op. cit.* 1871, p. 398 ; Grant, Cat. Birds B. M. xxii. p. 333 (1893) ; La Touche, Ibis, 1895, p. 338 ; 1898, p. 373 ; Grant, Hand-b. Game-B. ii. p. 27 (1897).

The Formosan Ring-necked Pheasant is peculiar to the island, and is generally distributed on the plains and lower hills.

260. **CALOPHISIS MIKADO* Grant.

Calophasis mikado Grant, Bull. B. O. C. xvi. p. 122 (1906).

a. [♂] Middle pair of tail-feathers. Mt. Arizan, Central Formosa.

This species was founded on the middle pair of tail-feathers of a Pheasant which inhabits Mt. Arizan, Central Formosa.

The feathers, which are shaped like the middle tail-feathers of *C. humiæ* (Hume), are black, crossed by about twelve narrow grey bands, about 1·5 inches apart. They are very different from the tail-feathers of any known species of Pheasant. They are incomplete at the base, but measure about 18·0 inches.

Mr. Goodfellow writes :—"I found these feathers in the head-dress of a savage, who had come to carry our baggage. He said that he had killed the bird on Mt. Arizan and that it was rare."

Hab. Mount Arizan, Central Formosa.

[On the Racu Racu Mountains Mr. Goodfellow also procured a female Pheasant of an unknown species, which is almost certainly referable to my *Calophasis mikado*, for it is most nearly allied to the female of *C. humiæ* and more distantly to that of *C. ellioti* (Swinh.).

When describing the two middle tail-feathers on which

C. mikado was founded, I overlooked this specimen; but if I am right in surmising that it is the female of *C. mikado*, I have no doubt been correct in referring the male to the genus *Calophasis*.

The following is a description of the bird:—

Adult female. Head and neck dark olive-brown, shading into dark rufous-brown on the crown and nape, where most of the feathers are marked with black; chin and throat pale whitish brown; ear-coverts blackish, with white shafts and middles; feathers of the mantle and upper back black, mottled with rufous-brown, and each with a terminal white hastate shaft-spot and olive-brown margin; lower back and rump olive-brown, transversely mottled with black and with pale whitish buff shaft-stripes; upper tail-coverts pale sandy-brown mixed with rufous, and with irregular wide black bars; feathers of the chest and sides of the body irregularly barred and marked with black and white and margined with olive-brown; middle of the breast very similar, but whiter; belly and vent greyish brown, barred with black and fringed with whitish; under tail-coverts chestnut, widely tipped with white and barred with black; primaries and secondaries black, barred with pale rufous, the outer secondaries being also more or less vermiculated with the same colour; wing-coverts and scapulars blotched with olive-brown and black, obliquely barred with pale rufous, and with pale whitish buff shaft-stripes and tips; tail-feathers sixteen in number, chestnut, barred throughout their entire length with black, and with pale sandy-buff speckled with black, all except the middle pair being tipped with white.

Total length ca. 18·0 inches; wing 7·6 tail 7·5; tarsus 2·3.

a. ♀. Racu Racu Mts., 7000 ft., Feb. 1906.

On the whole, this is a much darker bird than the female of *C. humie*, with more black bars and narrower white tips to the outer pairs of tail-feathers, and with very different under parts. From the female of *C. ellioti*, which it approaches in the general markings of the upper parts and in the rufous colour of the top of the head, it may be at once recognised by the absence of black on the throat and by the heavy

black-and-white markings on the middle of the breast, which is mostly white in *C. ellioti*. The scaling of the tarso-metatarsus in this specimen seems to differ somewhat from that of *C. humiae*, the whole of the hinder portion being clothed with rather small reticulate scales and lacking the row of scutes characteristic of the other two species; the tarso-metatarsus is, moreover, proportionately somewhat shorter.—W. R. O.-G.]

Of the 260 species enumerated in this list, no less than 50 are peculiar to the island of Formosa. It must, however, be noted that 3 of these species, viz. *Munia formosana*, *Spizixus cinereicapillus*, and *Sphenocercus formosæ*, are said to have been met with in other adjacent islands. Now of these the first and last-named are no doubt accidental stragglers to Luzon and the Babuyan Islands respectively, while with regard to *Spizixus cinereicapillus* there has probably been some mistake made. Either the specimen examined by Hartlaub did not come from Hainan (which seems most probable, as recent expeditions to that island have failed to meet with any species of *Spizixus*), or it may have been wrongly identified with *S. cinereicapillus*.

XII.—*On the Birds of Gazaland, Southern Rhodesia.*—

Part II. By C. F. M. SWYNNERTON*.

92. UPUPA AFRICANA. South-African Hoopoe.

I found these birds fairly plentiful but somewhat locally distributed; they prefer the thorn-and-grass-jungle type of country, and were common at Mafusi on my arrival there at the end of July 1900, when they were going about in pairs. In September, as a rule, they are very much in evidence, and their calls may be heard in every direction—whether as the result of a partial migration or of the fact that they are then less shy than at other times, I am unable to say: the natives to whom I have spoken on the subject

* Concluded from p. 74.